

**[0091]** An apparatus and method for loading a data storage device with a plurality of randomly located data are described. The method includes loading, in response to execution of a multiple data load instruction, data within a destination data storage device wherein one or more data elements from the data are randomly located within a memory device. In one embodiment, addresses of the data elements are contained within a data storage device and indicated as index addresses. In addition, the data elements are stored in one or more data storage areas of a memory device, which include look-up tables, data arrays or the like. In addition, data elements within the destination data storage device, as well as address indexes within the address data storage device may be organized in response to execution of a data shuffle instruction according to a data processing operation instruction.